Name:

at1113exam: Expand, factor, and solve quadratics (v303)

1. Solve the equation.

$$(4x - 3)(5x - 9) = 0$$

$x = \frac{3}{4}$ $x = \frac{9}{5}$

2. Expand the following expression into standard form.

$$(5x - 7)(5x + 7)$$

$25x^2 + 35x - 35x - 49$

$25x^2 - 49$

3. Expand the following expression into standard form.

$$(6x - 5)^2$$

$36x^2 - 30x - 30x + 25$

$36x^2 - 60x + 25$

4. Expand the following expression into standard form.

$$(3x - 2)(7x + 6)$$

$21x^2 + 18x - 14x - 12$

$21x^2 + 4x - 12$

5. Solve the equation.

$$11x^2 - 39x + 13 \;=\; 4x^2 - 2x + 3$$

$$7x^2 - 37x + 10 = 0$$
$$(7x - 2)(x - 5) = 0$$
$$x = \frac{2}{7} \qquad x = 5$$

6. Factor the expression.

$$9x^2 - 49$$

$$(3x - 7)(3x + 7)$$

7. Factor the expression.

$$x^2 - 11x + 24$$

$$(x - 8)(x - 3)$$

8. Solve the equation with factoring by grouping.

$$15x^2 + 18x + 10x + 12 \;=\; 0$$

$$(3x + 2)(5x + 6) = 0$$
$$x = \frac{-2}{3} \qquad x = \frac{-6}{5}$$